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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/700,517	03/06/2001	Hans-Rolf Dubal	514453-3853	6051

7590 12/20/2002

William F Lawrence  
Frommer Lawrence & Haug  
745 Fifth Avenue  
New York, NY 10151

EXAMINER

PARKER, KENNETH

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 12/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/700,517

Examiner

Kenneth A Parker

Applicant(s)

DUBAL ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 10-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1 ☐ Certified copies of the priority documents have been received.
- 2 ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
- 3 ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 10-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

What would constitute an unambiguous direction is ambiguous. Why is does bookshelf layer structure not define an unambiguous direction. From the examiners perspective, it is considered that it does, and that in fact, most smectic devices do. The specification does not illuminate the situation; in fact it appears to give no detail to separate this device from those of the prior art.

The language describing the direction of the nematic or cholesteric phase is indefinite, as what is refereed to cannot be understood. Is this the molecular direction? In a cholesteric phase, the directions vary by 360 degrees, leaving significant question as to what is the molecular direction. For examining purposes, it is assumed that this refers to the molecules being parallel aligned.

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the directions claimed

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must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a) because they fail to show the layer structure as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily

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published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 10-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Nito US5214523.

The reference indicates, at least optionally, monostable and bookshelf alignment (shown in figure 1, and interpreted to imply having a direction).

"In the absence of the applied electrical field, this monostable state is maintained as the initial state, resulting in the black level."

The alignment layers provide parallel alignment, so the nematic phase molecules will be aligned in the same direction (parallel to the substrates). Although this reference is directed to technology described in the specification as being different from the claimed invention, as best can be determined from the language as discussed above these claims are anticipated by the reference.

Claims 10-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Kumar US 5530566.

The reference indicates, at least optionally, monostable and bookshelf alignment (shown in the cover figure, and taken to imply having a direction).

"disclosed is a class of light modulating materials comprising microdomains of ferroelectric smectic liquid crystal dispersed in a light-transmissive polymer medium. The microdomains are formed by phase separation of the liquid crystal from solution with the polymer as the polymer is solidified. The switching of the liquid crystal may be either monostable or multistable (e.g., bistable), depending on

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the liquid crystal and polymer. The material modulates light in either a scattering-transmissive mode or a birefringence mode."

The alignment layers provide parallel alignment, so the nematic phase molecules will be aligned in the same direction (parallel to the substrates). As best can be determined from the language as discussed above, these claims are anticipated by the reference.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nito US5214523 as applied above.

Regarding the method limitations and the phase paths, where a prior device has the structure but lacks a characteristic, the burden is shifted to applicant to show a non-obvious difference as is the situation where a product is described in process limitations. See MPEP 2112-2113.

Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar US 5530566 as applied above.

Regarding the method limitations and the phase paths, where a prior device has the structure but lacks a characteristic, the burden is shifted to applicant to show a non-obvious difference as is the situation where a product is described in process limitations. See MPEP 2112-2113.

### ***Allowable Subject Matter***

Clarifying the matters regarding the 112 second paragraph rejections applied above, and showing a non-obvious difference of 12-15 may make the claims allowable, presuming that these conditions and/or method limitations define what is needed to produce devices with the claimed characteristics and presuming the correction over 112 defines devices distinct from the references applied above.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth A Parker whose telephone number is 703-305-6202. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William L. Sikes can be reached on 308-4842. The fax phone numbers for

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the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.

Kenneth A Parker  
Primary Examiner  
Art Unit 2871

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December 15, 2002